

AD-A036 658

AIR FORCE PACKAGING EVALUATION AGENCY WRIGHT-PATTERSON--ETC F/G 13/4
DEVELOPMENT OF MATTRESS CONTAINERS FOR HOUSEHOLD GOODS SHIPMENT--ETC(U)
FEB 77 E J KOWALSKI
PTPD-77-5

UNCLASSIFIED

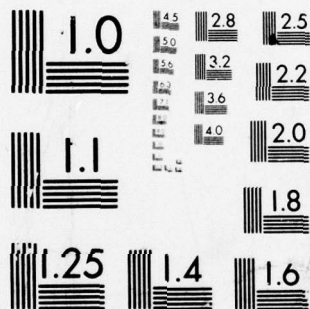
| OF |
AD
A036658



NL

END

DATE
FILMED
3-77



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

ADA036658

APPROVED FOR PUBLIC RELEASE
DISTRIBUTION UNLIMITED

PTPD REPORT NO. 77-5 ✓
AFPEA PROJECT NO. 76-P7-43 ✓
76

[Handwritten signature]
[Handwritten initials]

EDWARD J. KOWALSKI

Mechanical Engineer

AUTOVON 787-3362
Commercial (513) 257-3362

DDC
RECEIVED
MAR 10 1977
RECEIVED

DEVELOPMENT OF MATTRESS CONTAINERS
FOR HOUSEHOLD GOODS SHIPMENTS

AFALD/PTPD
AIR FORCE PACKAGING EVALUATION AGENCY ✓
Wright-Patterson AFB OH 45433

February 1977

NOTICE

When government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related government procurement operation, the United States Government thereby incurs no responsibility whatsoever; and the fact that the government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto. This report is not to be used in whole or in part for advertising or sales purposes.

ABSTRACT

A need exists to reduce costs associated with household goods shipments. One of the high cost items is the carton required to provide protection, for reasons of personal hygiene, to mattresses/box springs. Bags fabricated from Kraft paper, polyethylene, and spunbonded Olefin materials were used to encase the mattress/box spring. The encased items were then placed in used cartons for service test shipments. The Transportation Office received no response from the customers as a result of the service test shipments; however, the Air Force Packaging Evaluation Agency (AFPEA) evaluation indicated that both the 70 pound Kraft paper and spunbonded Olefin bags as an overpack would adequately protect mattresses/box springs in shipment.

Accession for
NDA ☐ NDA Section
DOC ☐ DOC Section
UNCLASSIFIED
JUSTIFICATION
BY
DISTRIBUTION/AVAILABILITY CODES
DISC
AFRL and/or SPECIAL
A

PREPARED BY:

Edward J. Kowalski
EDWARD J. KOWALSKI
Mechanical Engineer
Design Division

REVIEWED BY:

Ralph Zynda
RALPH ZYNDA
Chief, Design Division
Air Force Packaging Evaluation Agency

PUBLICATION DATE:

February 1977

APPROVED BY:

Jack E. Thompson
JACK E. THOMPSON
Director, Air Force Packaging
Evaluation Agency

TABLE OF CONTENTS

	PAGE
NOTICE.11
ABSTRACT.111
TABLE OF CONTENTS	1
INTRODUCTION.	1
PURPOSE.	1
BACKGROUND	1
TEST AND EVALUATION	1
DESCRIPTION OF TEST SPECIMENS.	1
TEST PROCEDURE	1
RESULTS.	2
CONCLUSIONS	2
RECOMMENDATIONS	2
DISTRIBUTION LIST	4
DD FORM 1473.	5

INTRODUCTION

PURPOSE: There is a valid need to reduce assessorial costs associated with the preparation of household goods for shipment. The intent of this project was to determine a more cost effective packaging approach for the shipment of mattresses/box springs.

BACKGROUND: One of the high cost items associated with every shipment of household goods is the requirement to provide physical and environmental protection to mattresses/box springs. The fiberboard carton currently used, in accordance with personal property traffic management regulation DOD 4500.34.R, Section II, is not cost effective because it is non-reusable. To evaluate possible savings from reused cartons, service test shipments were made by carriers for DoD customers. Mattresses/box springs encased in a bag were placed in a used carton as test specimens and shipments were made to CONUS and oversea destinations.

TEST AND EVALUATION

DESCRIPTION OF TEST SPECIMENS:

Single weight 50 and 70 pound Kraft paper, 4 mil polyethylene, and spunbonded olefin material bags with self-adhesive flaps were used in the following mattress/box spring sizes:

Crib	28 1/2" x 5" x 61 1/2"
Twin	34" x 5" x 75"
Three/Fourth	38 1/2" x 7 1/2" x 85"
Full	53 1/2" x 7 1/2" x 85"
Queen	61" x 8" x 91"
King	74" x 8" x 95"

Mattresses/box springs used in the tests were actual shipments of DoD personnel household goods shipments.

TEST PROCEDURES:

Twelve opinion survey agreements were made with DoD customers to service test their mattresses/box springs with serviceable used cartons

and new bags during transit of household goods by a carrier/contractor.

A survey form, with questions to determine the feasibility of reusing mattress/box spring cartons, was included with the household goods shipment to be evaluated by the customer and to be returned to the Transportation Branch Logistics Squadron, Wright-Patterson AFB OH 45433.

RESULTS:

One survey form, with no comments, was returned to the Transportation Branch. An effort was made to retrieve data from the eleven remaining participants; however, no information was received.

CONCLUSIONS

Although no customer feedback was received, it can be assumed that the test shipments made using the suggested method of protecting mattresses/box springs were satisfactory. The area of household goods is highly subject to complaints if any problems are identified by the customer.

Evaluation conducted on materials at the Air Force Packaging Evaluation Agency indicates the following:

a. The use of 70 pound Kraft bags with a self-adhesive flap for closure along with a clean used carton is an acceptable method for household goods shipment of mattresses/box springs.

b. Polyethylene bags do not perform well because of condensation problems.

c. Spunbonded olefin material bags have the following advantages over the Kraft bags:

1. Water and chemical resistant
2. Rot and mildew resistant
3. Higher tear, bursting, and tensile strength
4. Good flexibility

RECOMMENDATIONS

As a result of work conducted thus far it is recommended that:

- a. Further service testing should be conducted on the 70 pound Kraft and spun bonded olefin material bags by the Transportation Branch Logistics Squadron, Wright-Patterson AFB OH 45433. (Bags are available for additional service tests by customer/carrier.)
- b. DoD customers be alerted as to the urgent need for their comments on the shipment of mattresses/box springs.
- c. Cartons be annotated as "Test Shipment - Reply Required" to alert the destination Traffic Management Office (TMO).
- d. Customers coordinate with the destination TMO for return of survey information from the service test shipment.
- e. Calculated cost avoidance savings be completed and presented to DoD traffic manager for consideration of revision to DoD Regulation 4500.34R for use of mattress/box spring overwrap and used carton combination for household goods shipment.

DISTRIBUTION LIST

Defense Documentation Center	12
AFALD/PTP Library	10
AFALD/PT	1
HQ USAF/LGTN Wash DC 20330	2
HQ USAF/LGTT Wash DC 20330	2
AFLC/LOTMT Wright-Patterson AFB OH 45433	1
2750 LS/DMTH Wright-Patterson AFB OH 45433	1

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER PTPD No. 77-5	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER (9)
4. TITLE (and Subtitle) Development of Mattress Containers for Household Goods Shipments,		5. TYPE OF REPORT & PERIOD COVERED Engineering and Test Data <i>rept.</i> June 1976 - Feb 1977
7. AUTHOR(s) Edward J. Kowalski		6. PERFORMING ORG. REPORT NUMBER AFPEA Project No. 76-P7-43
9. PERFORMING ORGANIZATION NAME AND ADDRESS AFALD/PTPD Wright-Patterson AFB OH 45433		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS AFALD/PTPD Wright-Patterson AFB OH 45433		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
13. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) PTPD-77-5		12. REPORT DATE Feb 1977
		14. NUMBER OF PAGES 7
		15. SECURITY CLASS. (of this report) Unclassified
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release. Distribution unlimited.		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Mattress shipping container Box springs shipping container Household goods container		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) An urgent need exists to reduce costs associated with household goods shipments. One of the high cost items is the carton required to provide protection, for reasons of personal hygiene, to mattresses/box springs. Bags fabricated from Kraft paper, polyethylene, and spunbonded Olefin materials were used to encase the mattress/box spring. The encased items were then placed in used cartons for service test shipments. The Transportation Office received no response from the customers as a result of the service test shipments; →(Cont'd)		

403 519

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

20. ABSTRACT (Cont'd)

cont.

however, the Air Force Packaging Evaluation Agency (AFPEA) evaluation indicated that both the 70 pound Kraft paper and spunbonded Olefin bags as an overpack would adequately protect mattresses/box spring in shipment.

UNCLASSIFIED

6

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)